

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Article 36 and Rule 70)

REC'D 28 JUL 2004

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Applicant's or agent's file reference MULTI-022	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/BR 03/00185	International filing date (<i>day/month/year</i>) 02.12.2003	Priority date (<i>day/month/year</i>) 05.12.2002
International Patent Classification (IPC) or both national classification and IPC G01R31/28		
Applicant MULTIBRAS S.A. ELETRODOMESTICOS et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

I ☒ Basis of the opinion

II ☐ Priority

III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability


IV ☐ Lack of unity of invention

V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

VI ☐ Certain documents cited

VII ☐ Certain defects in the international application

VIII ☐ Certain observations on the international application

Date of submission of the demand 27.05.2004	Date of completion of this report 27.07.2004
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Dogueri, K. Telephone No. +49 89 2399-7084



**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/BR 03/00185**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-17 as originally filed

Claims, Numbers

1-13 as originally filed

Drawings, Sheets

1/9-9/9 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-13
	No: Claims	
Inventive step (IS)	Yes: Claims	1-13
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-13
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. The document D4 (DE 3616506 A1) was not cited in the international search report. A copy of the document is appended hereto.
2. The document D4 is regarded as being the closest prior art to the subject-matter of claim 1, and shows a diagnosis system for household electric appliances such as refrigerators, freezers, and others (the diagnostics device of D4 is also suitable for use in household electric appliances); of the type presenting multiple loads (fig. 1, items E1, E2) which are energised by switches (fig. 1, items S1, S2) commanded by respective electronic controls (col. 13, lines 56-66) operatively coupled to a command module (fig. 1, item MC), which energises the loads and an interface coupled thereto (col. 4, lines 1-3).

The subject-matter of claim 1 differs from this known D4 in that it comprises a voltmeter operatively coupled to the inlet of each load, so as to measure a first voltage in the inlet of the loads with the switches opened, and a second voltage in the inlet of each load with the respective switch closed; a control unit operatively associated with the command module and with the voltmeter and which is operated according to a sequence of tests that are selectively activated to receive from the voltmeter the values of the first voltage and of each second voltage and to process these values, indicating in the interface the existence of failure in at least one of the elements defined by the command module, by the switches, and by the respective electronic controls thereof, in case any second voltage presents a value that is equal to or higher than that of the first voltage.

The subject-matter of claim 1 is therefore new (Article 33(2) PCT).

The problem to be solved by the present invention may be regarded as to provide an alternative approach in order to diagnose multiple electrical loads.

The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) as none of the prior art documents discloses an approach where the voltages detected in the "ON" and "OFF" states of the loads are compared.

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3. Claims 2-13 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.